

COST AS AN INDEPENDENT VARIABLE CAIV

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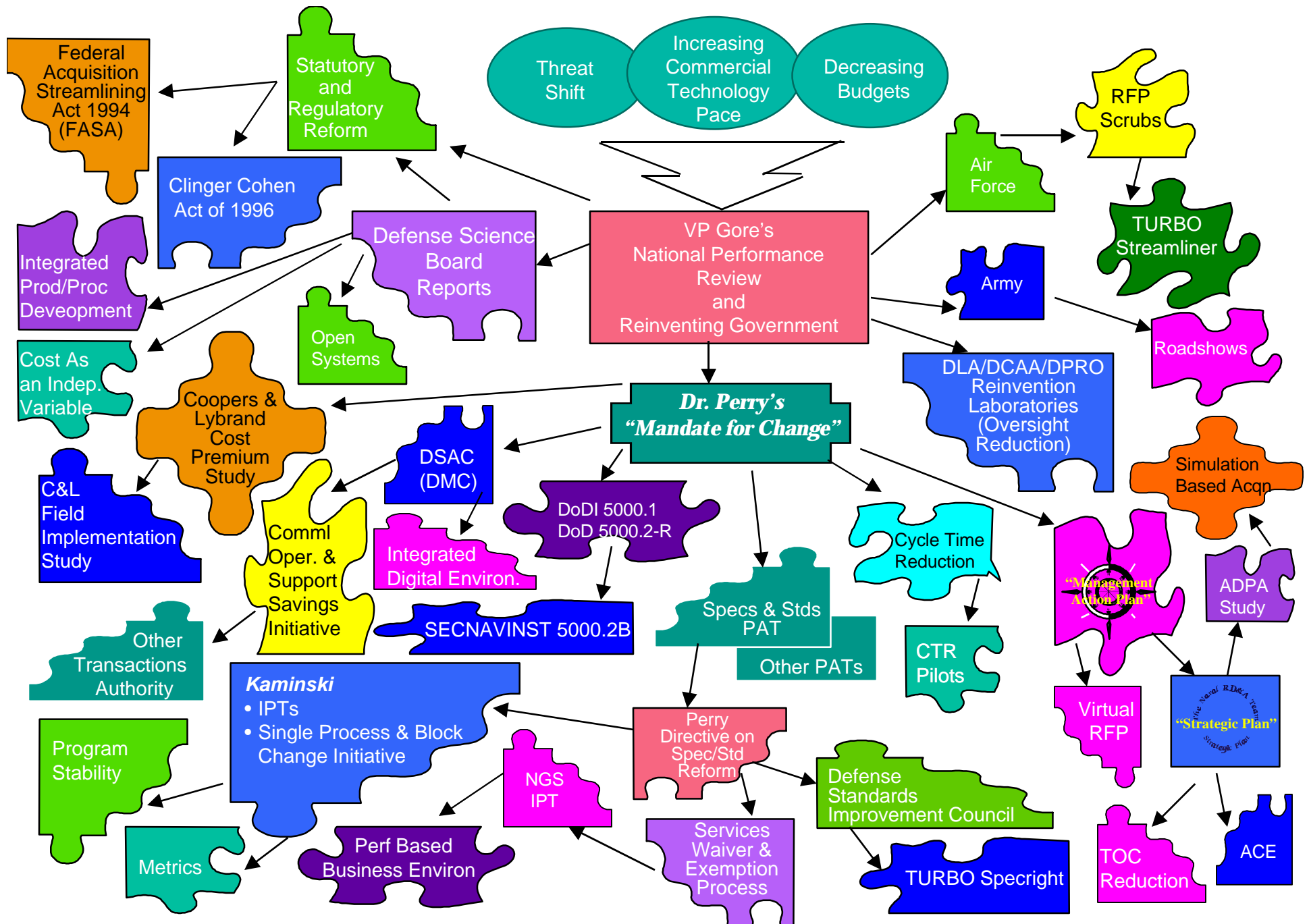
Assistant Secretary of the Navy

(Research, Development & Acquisition)

4 March 1998

CAIV PRESENTATION OVERVIEW

- Acquisition Reform overview
- DoN's CAIV policy
- DoN's Flagship CAIV program examples
- Summary and Questions



Acquisition Reform – A Change Management Feat

DoN ACQUISITION REFORM VISION

ACQUISITION REFORM IS A PROGRAM TO ACHIEVE DoD's MILITARY SUPERIORITY OBJECTIVE AT A REDUCED PRICE WITH INCREASED RESPONSIVENESS TO CUSTOMERS.

Key elements of the strategy are to increase access to the commercial industrial base, encourage innovation, foster managed risk, promote empowerment and establish cross-functional teams using world-class commercial practices.

THE EVOLVING ACQUISITION REFORM AGENDA

Legacy Initiatives

Policy Simplification
MILSPEC Waivers
Credit Cards
Comm'l Items
Electronic Commerce
Integrated Product Teams

Maturing Initiatives

Integrated Product and
Process Development
Cost As an Independent
Variable
Performance Based Business
Environment
Single Process Initiative
Comm'l Operations and
Support Savings Initiative
Other Transactions Authority

Developing Initiatives

Total Ownership Cost
Reduction
Program Stability
Integrated Digital
Environment
Simulation Based Acqn
(DON) Acqn Center of
Excellence
(DON) World Class
Competencies



CAIV

AFFORDABILITY INITIATIVE

**Cost as An Independent Variable
(CAIV)**

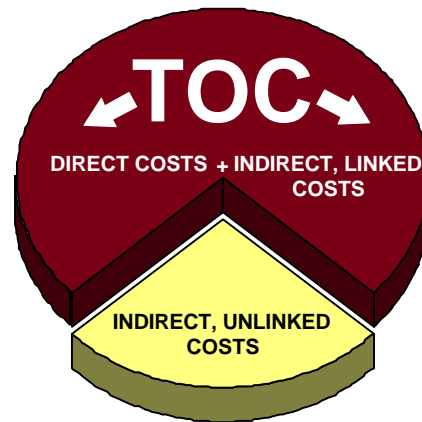
WORDS, WORDS, WORDS

Process Acquisition Reform Cost Procurement New Systems Disposal
Direct Fungible Metrics Logistics Fielded Systems Operations and support
Effectiveness **Total Ownership Cost** RDT&E Recapitalize and modernize
Life Cycle Cost Requirements Risk Top-down Price Budget expectations
Single Process Initiative Cost-Performance Integrated Product Team Warfighter
Motivate Implied Requirements Indirect, unlinked Aggressive, but realistic
Force levels Customer requirements Integrate Product and Process Development
Indirect, but linked **Cost As an Independent Variable** Effectiveness analysis
Customer needs Tools sets Systems engineering System dynamics modeling
Trade-offs Affordability Models Activity Based Costing Budget process
Analysis of Alternatives Incentives Understand and manage Trade hierarchy
Performance Capabilities Macroeconomics Overarching Integrated Product Team
Product-oriented Commercial Off the Shelf Enterprise Cost-performance trade-offs
Cost and Operation Effectiveness Analysis Databases Physical characteristics

ASN (RDA) TOTAL OWNERSHIP COST (TOC)

Strategic Goal:

“Understand and manage total ownership cost over the entire life cycle to produce savings for recapitalization and modernization”



RELATIONSHIP OF TOC AND CAIV

- **TOC** is an inclusive concept of the totality of costs associated with a weapon system which is to be managed to reduce total expenditures associated with that weapons system
- **CAIV** is a means for managing cost; a behavioral paradigm shift in which costs are not simply accepted, but rather they are driven by affordability limits.

***TOC IS A NOUN,
CAIV IS A VERB***

CAIV IPT

- Joint memo signed by Navy and Marine Corps requirements organizations, logistics, and acquisition reform
- Purpose: Develop a formal policy that substantially assists PMs and Functional Managers to implement CAIV techniques to achieve significant reductions in Total Ownership Costs (TOC)
- IPT participation from requirements, acquisition, logistics, and budgeting communities
- Army, Air Force, and NCAT participating

CAIV TENETS

1. CAIV is a DoN strategic management process.

Fundamental iterative actions:

- Establish mission area resource allocations for each resource sponsor community.
- Determine operational requirements to meet mission needs.
- Estimate total life cycle costs to satisfy requirements.
- Project long-range availability of resources in all affected appropriations based on resource sponsor priorities.
- Assess cost, schedule and performance relationships.
- Establish aggressive target costs.
- Identify cost reduction opportunities/tradeoffs to meet aggressive targets.
- Develop plans, metrics and provisions for managing program execution.

CAIV TENETS

2. CAIV is:

- Top-down;
- Bottom-up;
- Continuous; and
- Comprehensive

This process facilitates decisions to influence TOC while still meeting the warfighters' needs.

CAIV TENETS

3. CAIV recognizes that limited resource availability affects TOC target.
4. CAIV employs a hierarchy of cost reduction activities.
 - Processes and activities.
 - Implied requirements.
 - Trade-off that reduce costs while meeting all operational requirements.
 - Cost-performance trade-off as a last resort.

CAIV TENETS

5. CAIV recognizes that carefully structured contracting incentives can offer great leverage in achieving CAIV objectives.

Examples of these incentives include:

- Award fees during design and development
- Procurement price commitment curve for production
- Profits above typical margins if contract cost or schedule objectives are significantly improved upon

CAIV TENETS

6. CAIV requires risk management

- Perform risk Analysis
- Establish a risk management plan
- Define and measure risk metrics
- Establish incentives
- Utilize existing knowledge and experience

CAIV TENETS

7. CAIV is a cradle to grave process

– New Systems

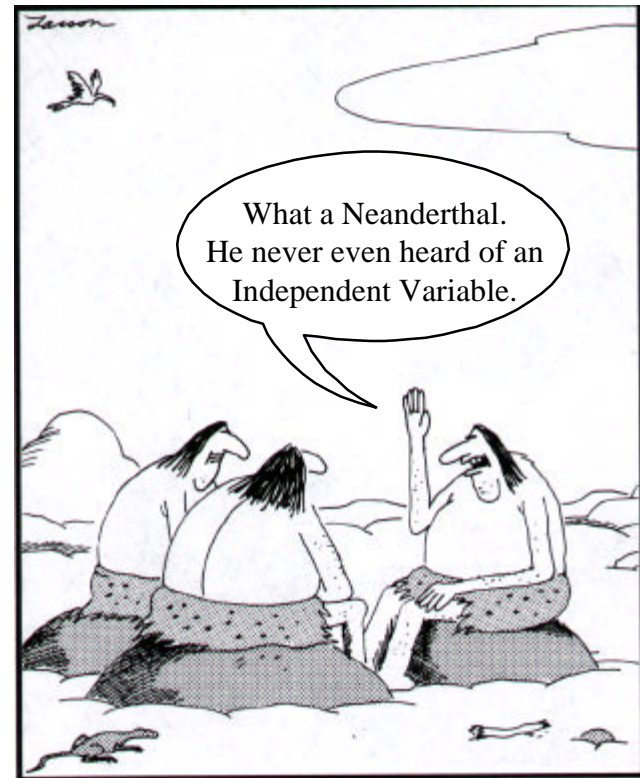
- Initiated during the requirements generation phase
- Greatest leverage before process and product phase
- Continuous execution throughout life cycle may yield unforeseen opportunities in cost saving benefits

– Fielded Systems

- Initiated and refined where practical
- Production and legacy programs can also apply same tenets

STRATEGIC COST MANAGEMENT

- Goal setting and management control approach.
- Establish a target price based on affordability analysis.
- Re-examination of processes, implied requirements, and customer-established requirements.
- Achieve customer objectives at a cost / price level not thought possible.



EVOLUTION OF THE CAIV MAN

ADVANCED AMPHIBIOUS ASSAULT VEHICLE



Operational Models are More Important
to CAIV Than Cost Models

CAIV Cost Reduction Priorities

- Management Goals
 - Objectives and Metrics
- Processes and Activities
 - IPTs and Information Management
- Requirements Analysis
 - Extensive User Involvement
- Cost Performance Trade-Offs
 - Analysis of Design Alternatives
 - Focus on Minimum Requirements

DoN CAIV FLAGSHIP PROGRAM

MOBILITY DESIGN IMPACT

- Transmission Trade Study
 - Reassessed 4-speed transmission presented in proposal during initial design
 - Selected 6-speed transmission based upon
 - Well established military and commercial production base and support infrastructure by FY02
 - Greater drive train efficiency, increased performance
 - Projected program savings (using VE clause)
 - \$4.2M increase in DEM/VAL costs
 - \$41K decrease per vehicle in DTUPC
 - Total “savings” with improved performance \$71.5M

SPECIAL PROVISION / VALUE ENGINEERING

- The AAAS contract has a VE clause as well as a special provision regarding AAAS system design decisions which allows the contractor to: “... propose changes to the design that significantly reduce Life Cycle and Design to Unit Production Costs while incurring additional PDRR development expense.”
- Encourages continued optimization of the design during DEM/VAL

AIM-9X

- EMD contract incentives in place to achieve target AUPC
 - Award fee
 - Procurement price commitment curve
- Producibility metrics ensure producibility considered in the design process
- Strong emphasis on risk management

***\$1.2B IN ESTIMATED DEVELOPMENT AND
PROCUREMENT SAVINGS***

SUMMARY

- Early and continuous involvement of the requirements community is essential for CAIV success
- Affordability analysis is fundamental in establishing target cost
- CAIV is a hierarchy of cost reduction activities – it is not just cost / performance tradeoffs

Navy Acquisition Reform...

www.acq-ref.navy.mil



...Charting a New Course